

ABSTRACT

Hollow glass microspheres obtained from fly ash (cenospheres) are impregnated with extractants/ion-exchangers and used to remove hazardous material from fluid waste.

In a preferred embodiment the microsphere material is loaded with ammonium molybdophosphate (AMP) and used to remove radioactive ions, such as cesium-137, from acidic liquid wastes. In another preferred embodiment, the microsphere material is loaded with octyl(phenyl)-N-N-diisobutyl-carbamoylmethylphosphine oxide (CMPO) and used to remove americium and plutonium from acidic liquid wastes.